Record of Modification

Phase 1 Site Characterization Sampling and Analysis Plan Field Activities
Columbia Fall Aluminum Company RI/FS
Phase 1 SAP MOD #9

Instructions to Requester: **Submit to Roux RI Manager or Roux RI/FS Project Manager**
Roux RI Manager will maintain legible copies in a binder that can be accessed by personnel.

Project Work Plan/QAPP (check one)**:**

[X] 2015 Phase 1 SAP

[ ] SOP (Title, # and approval date): _____

Requester: Michael Ritorto, RI Manager Date: 2/21/2017

Applicable section of SAP/SOP:

SAP Section 4.8 and 4.9: Groundwater and Surface Water Sampling

Description of Modification:

During the Phase I Site Characterization sampling event scheduled to begin in March 2017 (Sampling Round 3), selected surface water and groundwater samples will be analyzed for free cyanide via USEPA laboratory method 9016. These analyses are in addition to the total cyanide analyses that are included as part of the original scope of work.

Free cyanide analysis will be completed on samples from 22 monitoring wells and 3 surface water locations during the sampling event. These locations have been selected based on the sampling results of Round 1 and 2 for total cyanide analysis. At each of these locations, the total cyanide concentration exceeded the USEPA Drinking water MCL / MDEQ Circular 7 Human Health Standard in one or both of the first two rounds of sampling.

Rationale for Modifications / Potential Implications of Modifications:

The various screening levels utilized to evaluate the Phase 1 Site Characterization data are based upon exposure to free cyanide. Thus, with the use of the total cyanide data, any potential for effects due to cyanide exposure is likely overestimated as free cyanide would only comprise a fraction, if any, of the total cyanide present. The analysis of free cyanide in the groundwater and surface water samples as proposed will further facilitate a better understanding of Site conditions.

Duration of Modification (Check one):

[X] Temporary

Date(s) 2/21/2017

Sample Numbers Affected CFMW-002, CFMW-010, CFMW-012, CFMW-014, CFMW-015, CFMW-019, CFMW-021, CFMW-022, CFMW-027, CFMW-029, CFMW-031, CFMW-032, CFMW-033, CFMW-034, CFMW-038, CFMW-040, CFMW-042, CFMW-043, CFMW-044, CFMW-045, CFMW-053, CFMW-054, CFSWP-003, CFSWP-004, CFSWP-005

[ ] Permanent (Proposed Text Modification Section)
Effective Date:

Proposed Text Modifications in Associated Document:

Data Quality Indicator (check one) – Please reference definitions on next page for direction on selecting data quality indicators:

[ ] **Not Applicable** [ ] **Reject** [ ] **Low Bias** [ ] **Estimate** [ ] **High Bias** [X] **No Bias**

Roux Project Manager Approval: Michael Ritorto Date: 2/21/2017
(Roux RI/FS Project Manager or designate)

EPA Review and Approval: Mike Cirian Date: _____

(USEPA RPM or designate)

DATA QUALITY INDICATOR DEFINITIONS

Reject – Samples associated with this modification form are not useable. The conditions outlined in the modification form adversely affect the associated sample to such a degree that the data are not reliable.

Low Bias – Samples associated with this modification form are useable, but results are likely to be biased low. The conditions outlined in the modification form suggest that associated sample data are reliable, but estimated low.

Estimate – Samples associated with this modification form are useable, but results should be considered approximations. The conditions outlined in the modification form suggest that associated sample data are reliable, but estimates.

High Bias – Samples associated with this modification form are useable, but results are likely to be biased high. The conditions outlined in the modification form suggest that associated sample data are reliable, but estimated high.

No Bias – Samples associated with this modification form are useable as reported. The conditions outlined in the modification form suggest that associated sample data are reliable as reported.